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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/518,696 | 07/21/2005 | Satoshi Mekata | AKY-0019 | 7844 |

23353 7590 01/09/2008

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| EXAMINER | |
|---|---|
| BAINBRIDGE, ANDREW PHILIP | |
| ART UNIT | PAPER NUMBER |
| 4156 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 01/09/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/518,696 | MEKATA, SATOSHI | |
| | Examiner | Art Unit | |
| | Andrew P. Bainbridge | 4156 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/21/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 objected to because of the following informalities: the word "plural" should be "plurality". Appropriate correction is required.

### *Claim Rejections – 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 2, 4-7 recite the limitation "the passage".** There is insufficient antecedent basis for this limitation in the claim. It is unclear which passage the applicant is referring to in each claim.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**5. Claims 1-8, and 10-12 are rejected under 35 U.S.C. 103(a) as being anticipated by the two embodiments of US 3,722,750 (Fox, Jr.).**

6. Claim 1, the two embodiments of Fox teach:

A container for dispensing plural contents comprising,

an outer container, (element 11 and 110, Figures 1 and 4)

a collapsible inner bag (element 15, Figure 1, col. 2, lines 30-45)

having a plural of chambers inserted in the outer container, (elements 140, 142, Figure 4, col. 3, lines 45-65)

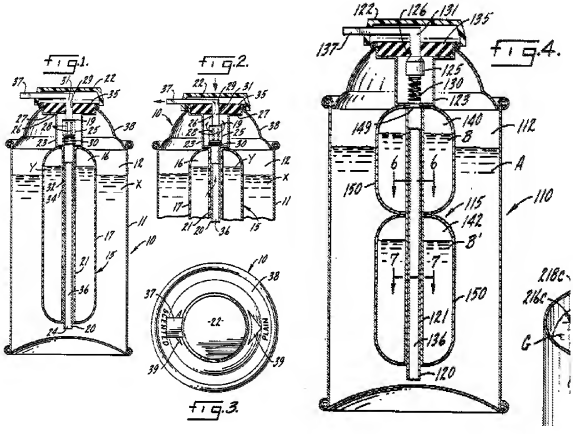
a plural of passages communicating each chamber with an atmosphere, (elements 120, 145-148, Figure 4, col. 3, lines 60-70, col. 4, lines 1-15)

a dispensing valve releasing the passages simultaneously, (elements 126, 135, Figure 4, col. 4, lines 25-45)

a discharging member activating the valve, wherein the inner bag is substantially one bag divided into plural chambers by compartment element, and each chamber has at least a collapsible part. (element 15, Figure 1, col. 2, lines 30-45 teaches collapsibility, elements 140, 142, Figure 4, col. 3, lines 45-65 teaches plural chambers)

The first embodiment of Fox is shown in Figure 1, and it teaches a single collapsible inner bag. The second embodiment of Fox is shown in Figure 4, and it teaches two rigid inner bags. A person of ordinary skill in the art would find it obvious to adapt the second embodiment of Fox with the first embodiment of Fox because they are simply variants of one another. A person would be motivated to adapt the second embodiment with the first because the flexible inner bags allows the pressurization of the two bags

be controlled by one surrounding vessel, which ensures that the two bags remain at the same pressure.




Fox:

Considering the aerosol dispenser 10 in more detail, the outer compartment 12 holds a chemical composition or mixture which comprises the basic hair spray compound and, in addition, a propellant vapor. The inner container 15, formed of plastic in the present illustration, has a thin and flexible outer wall 17 yieldable to the pressure. Thus, the pressure exerted by the propellant vapor is simultaneously exerted on the dispensable materials X and Y in both compartments.

The dispensable materials X and Y are discharged through the nozzle assembly 22 fastened by a connecting member 25 to the dip tube 20. The dip tube 20 extends through the inner compartment 16 and opens into the outer compartment 12 at 24. The plastic inner container 15 is formed concentrically about the dip tube 20 and has an inner sleeve 21 of slightly larger

partments 140 and 142. The dip tube 120 contains radial openings 146 and 148 communicating with the compartment 140 and radial openings 145 and 147 communicating with the compartment 142. The sleeve 121 contains radial openings 143 and 144 communicating with compartments 140 and 142, respectively. The openings 143 and 146 or 148 when in registry, make possible the flow of material B into the axial bore 136, and similarly the openings 144 and 145 or 147 when in registry, make possible the flow of material B' into the axial bore 136.

In the dispenser 110, in contrast to the dispenser 10, the dip tube 120 and the nozzle pipe 131 are not unitary. Rather, a helical spring 130 has one end rigidly secured to the top end of the separate dip tube 120 and

separated sub-compartments might be constructed within the container 15 instead. In such case, of course, any of a plurality of additive scents, for example, might be selectable.

In a second form of the present invention, there is provided a dispenser 110 embodying features of the invention and illustrated in FIG. 4 and 5. The construction of the dispenser 110 is broadly similar to that of the dispenser 10. However, the inner container 115 is axially separated into two compartments 140 and 142 containing dispensable materials B and B', respectively. The outer wall 150 of the inner compartments 140 and 142 is, in the present illustration, constructed of a rigid material. Recalling that the wall 17 of the container 15 in dispenser 10 was of flexible plastic, it must be pointed out that if the inner compartment wall is thin and flexible, only the outer compartment 12 needs to contain a propellant vapor, but if the wall is rigid, then both inner and outer compartments must contain a propellant vapor to assure dispensing of the inner compartment additive material into the outer compartment material. An inner sleeve 121 of slightly larger diameter than a dip tube 120, is common to both com-

assembly 122.

When the nozzle assembly 122 is depressed, the connecting member 125 is forced downward compressing the coil spring 130 against the bottom of the housing 123. Since the dip tube 120 and the nozzle pipe 131 are not unitary, the dip tube 120 is not forced downward. However, an orifice 126 in a seal washer 135, is moved downward into the housing 123 by the depression of the nozzle assembly 122. Also, the depression of the nozzle assembly 122 normally opens a pathway through the dip tube 120 to the atmosphere only from an outer compartment 112, thus allowing dispensable material to dispense. If the nozzle 122 is rotated to a prescribed position, as seen in FIG. 6, ports 143 and 146 are brought into registry, as seen in FIG. 6, as are ports 144 and 145 as seen in FIG. 7. Depression of the nozzle assembly 122 causes the propellant vapor to force all selected materials A, B and B' into and up the axial bore 136 and into the housing 123. Since the connecting member 125 is solid, the materials A, B and B' must first pass through the orifice 126 and then the nozzle

Claim 2, both the first and second embodiments of Fox both teach the elements of claim 2. (elements 25, 31 and 125, 131, Figure 1 and 4, col. 3, lines 10-30, col. 4, lines 40-60).

and up the axial bore **36** to the connecting member **25**. Direct passage into the nozzle pipe **31** is prevented by a bulkhead **19** located below the orifice **26** in the pipe **31** so the materials exit through the slots **28** into the housing **23**. The materials X and Y then pass through the orifice **26** and the nozzle pipe **31** to be expelled into the atmosphere.

It should be noted here that the dip tube **20** has a propensity to be expelled from the dispenser **10** by the vapor pressure in the compartment **12**. However, the connecting member **25**, to which the dip tube **20** is attached, is enlarged as illustrated so that it abuts the seal **35** and prevents the dip tube **20** from being expelled.

Release of downward pressure on the nozzle **22** allows the spring **30** (and vapor pressure in the dispenser **10**) to force the tube **20** and connecting member **25** upward and move the orifice **26** back into the seal washer aperture **29**. The flow of materials X and Y from the dispenser is stopped until the nozzle assembly is again depressed.

brought into registry, as seen in FIG. 6, as are ports **144** and **145** as seen in FIG. 7. Depression of the nozzle assembly **122** causes the propellant vapor to force all selected materials A, B and B' into and up the axial bore **136** and into the housing **123**. Since the connecting member **125** is solid, the materials A, B and B' must first pass through the orifice **126** and then the nozzle pipe **131** to be expelled into the atmosphere.

Release of a downward pressure on the nozzle **122** causes the orifice **126** to move back into the seal **135** in a similar manner as discussed in the first form of the present invention. It should be noted, however, that the dip tube **120** does not move during this function as it is securely retained on the housing **123**.

A visual aid, similar to that described in the first form of the present invention, is provided, as indicated at **139** in FIG. 5. In the present illustration, the marks **139** are labeled to indicate whether plain shaving cream or a combination of lemon and/or lime additives, for examples, will be dispensed when the tip **137** is in a selected position.

Claim 3, both the first and second embodiments of Fox both teach the elements of claim 3. (elements 25, 31 and 125, 131, Figure 1 and 4, col. 3, lines 10-30, col. 4, lines 40-60).

Claim 4, Fox teaches all of the elements of claim 4 in its second and third embodiments as viewed in Figures 4 and 8 respectively. (elements 120-121, 126, 131, 136, Figures 4, 8 col. 3, lines 65-70, col. 4, lines 1-15, 25-55). The third embodiment teaches that the central axial dip tube can be rotated in order to selectively access one or more of the chambers at a time independently of one another all via the same outlet tube. It would be obvious to one of ordinary skill in the art to adapt embodiment two with the rotating axial tube of embodiment three as viewed in Figure 8 because the two embodiments are not exclusive of one another, but could be combined to create a set of chambers that each can independently communicate with the atmosphere. A person of ordinary skill in the art would be motivated to combine these embodiments because it is a common design concern to create as much flexibility in the combinations of the

dispensations of a given container, which the combination of embodiments two and three creates.

Caim 5, the second embodiment of Fox teaches all of the elements of claim 5. (elements 115, 120 Figure 4, col. 3, lines 45-68, col. 4, lines 1-15)

separatec sub-compartments might be constructed within the container 15 instead. In such case, of course, any of a plurality of additive scents, for example, might be selectable.

In a second form of the present invention, there is provided a dispenser 110 embodying features of the invention and illustrated in FIG. 4 and 5. The construction of the dispenser 110 is broadly similar to that of the dispenser 10. However, the inner container 115 is axially separated into two compartments 140 and 142 containing dispensable materials B and B', respectively. The outer wall 150 of the inner compartments 140 and 142 is, in the present illustration, constructed of a rigid material. Recalling that the wall 17 of the container 15 in dispenser 10 was of flexible plastic, it must be pointed out that if the inner compartment wall is thin and flexible, only the outer compartment 12 needs to contain a propellant vapor, but if the wall is rigid, then both inner and outer compartments must contain a propellant vapor to assure dispensing of the inner compartment additive material into the outer compartment material. An inner sleeve 121 of slightly larger diameter than a dip tube 120, is common to both compartments 140 and 142. The dip tube 120 contains radial openings 146 and 148 communicating with the compartment 140 and radial openings 145 and 147 communicating with the compartment 142. The sleeve 121 contains radial openings 143 and 144 communicating with compartments 140 and 142, respectively. The openings 143 and 146 or 148 when in registry, make possible the flow of material B into the axial bore 136, and similarly the openings 144 and 145 or 147 when in registry, make possible the flow of material B' into the axial bore 136.

In the dispenser 110, in contrast to the dispenser 10, the dip tube 120 and the nozzle pipe 131 are not unitary. Rather, a helical spring 130 has one end rigidly

Claim 6, the second embodiment of Fox teaches all of the elements of claim 6. (element 115, 120 Figure 4, col. 3, lines 45-68, col. 4, lines 1-15).

Claim 7, the second embodiment of Fox teaches all of the elements of claim 7. (element 115, 120 Figure 4, col. 3, lines 45-68, col. 4, lines 1-15).

Claim 8, the second embodiment of Fox teaches all of the elements of claim 8. (element 115, 120 Figure 4, col. 4, lines 25-40).

assembly **122**.

When the nozzle assembly **122** is depressed, the connecting member **125** is forced downward compressing the coil spring **130** against the bottom of the housing **123**. Since the dip tube **120** and the nozzle pipe **131** are not unitary, the dip tube **120** is not forced downward. However, an orifice **126** in a seal washer **135**, is moved downward into the housing **123** by the depression of the nozzle assembly **122**. Also, the depression of the nozzle assembly **122** normally opens a pathway through the dip tube **120** to the atmosphere only from an outer compartment **112**, thus allowing dispensable material to dispense. If the nozzle **122** is rotated to a prescribed position, as seen in FIG. **5**, ports **142** and **146** are brought into registry, as seen in FIG. **6**, as are ports **144**

Claim 10, the second embodiment of Fox teaches all of the elements of claim 10. (Figure 4, col. 3, lines 45-68, col. 4, lines 1-15).

Claim 11, the second embodiment of Fox teaches all of the elements of claim 11. (Fig. 1-4, col. 3, lines 45-68, col. 4, lines 1-15).

Claim 12, the first and second embodiments of Fox teach all of the elements of claim 12. (Figures 1 and 4, col. 1, 25-50, col. 5, lines 33-38). The discharge ratio between the mediums can be controlled with the diameters of the tubes and the even application of pressure on the separate containers, and there is nothing in Fox that precludes a selection of chambers in ratios of 5:1 or more. The decision of a ratio between the two chambers amounts to "design choice", and there is nothing in Fox that precludes such an arrangement as claimed in claim 12.

It is an object of the present invention to provide an aerosol dispenser which contains a plurality of materials in separate compartments and is designed to selectively dispense combinations of these materials. It is another object to provide an aerosol dispenser of this type which affords selectivity of dispensed materials and material combinations in varying degrees of ratios by merely rotating the dispensing nozzle assembly of the dispenser.

The foregoing and other objects are realized in accord with the invention by providing an aerosol dispenser comprising sealed container means having at least two separate compartments. Each compartment contains different dispensable material. A dip tube, having an axial bore and radial inlet openings extending through the tube into the axial bore, is positioned in the container. The tube is rotatable about its major axis whereby the inlet openings are selectively aligned with ports communicating with each of the compartments. The inlet openings in the dip tube and the ports communicating with the compartments are arranged so that a selected combination of materials can be dispensed through a nozzle assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

ing mechanism to facilitate registry with one or more compartments.

Furthermore, by utilizing ports of varying sizes the dispensing rate of flow of the materials could be controlled over a wide range.

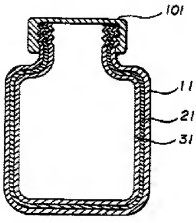
It will be understood that changes may be made in the details of construction, arrangement and operation without departing from the spirit of the invention, espe-

**22. Claim 9 is rejected under 35 U.S.C. 103(a)** as being unpatentable over Fox as modified, in further view of US 5,820,956 (Hatakeyama et. al.).

23. Claim 9, Fox teaches all the elements of claim 9, except that the outer surface of the inner bag have gas absorbent properties. Hatakeyama teaches this missing element. (Fig. 4, col. 1, lines 5-10, 25-30, col. 2, lines 40-55, col. 5, lines 1-25, col. 11, lines 25-40). Hatakeyama teaches making an inner bag created by blow forming using a synthetic resin with a laminated structure having a gas-absorbant layer. It would be obvious to a person of ordinary skill in the art to adapt Fox's inner bag with the teachings of Hatakeyama because the containers are related to keeping products fresh and controlling the amount of air pressure in the respective containers. A person of ordinary skill in the art would be motivated to combine these reference because Hatakeyama provides a solution to the Fox device to help control the fluctuations in air pressure and the potential of ruining the product with the unintended introduction of oxygen.

Hatakeyama:

**FIG.4**




The present invention relates to a multi-layer structural body which is obtained by forming and processing resin. More particularly, the present invention relates to a multi-layer structural body which has a superior oxygen absorbing function and superior resistance to gas permeation, and which can be used as a packing material, for example, for containing an oxygen absorber composition in a powder or granular form. In this specification, the air-permeable, small bag containing the oxygen absorber composition may be called the "small bag containing the oxygen absorber composition" or simply the "small bag." The expression "resistance to gas permeation" or variant expressions thereof used in this specification of the present invention means the

its oxygen absorbing capability will gradually become lower during the storage period of a package (such as a container, lid, or bag) molded from the multi-layer structural body, before it is actually used. Of course, if the multi-layer structural body itself is stored in atmospheric air for a long time, not only the oxygen absorbing performance lowers, but also it results in the problem that when such multi-layer structural body is molded into a package by a thermoforming method such as sheet forming, vacuum forming, or pressure forming, the multi-layer structural body bubbles at the time of thermoforming and the surfaces of the multi-layer structural body become uneven.

The above-described problems are caused because the oxygen absorption reaction requires moisture and the oxygen absorber composition tends to easily take in moisture which is essential to the reaction. There is another problem

tion reaction and the oxygen permeability of the first and second layers also increases, thereby resulting in a more rapid oxygen absorbing function.

The first layer forms the outermost layer of the package when the package is manufactured by using the multi-layer structural body of the present invention. This first layer consists of one or more layers. Regardless of the film thickness of each layer and the existence of adhesives, the first layer is required to have an oxygen permeability less than 100 cc/m²·day·atm (23° C., 100% RH). More preferably, it is desirable that the oxygen permeability of the first layer is 50 cc/m²·day·atm (23° C., 100% RH) or less. Namely, it is desirable to make the oxygen permeability of the first layer as low as possible within the allowable range concerning the processing steps, costs and other factors. When the package is manufactured by using the multi-layer structural body of the present invention, such small oxygen permeability of the first layer makes it possible to reduce the amount of oxygen permeating into the package from outside and to reduce the amount of oxygen absorber composition to be used. Moreover, the oxygen absorbing performance of the package can be maintained even longer.

As examples of the resin which composes the first layer, the following types of resin can be preferably used: polyolefin such as polyethylene and polypropylene, and modified

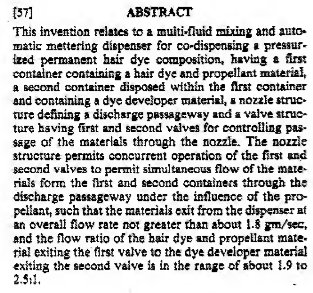
applied.

For example, the package can be formed directly by utilizing known resin molding technology and processing, including extrusion molding with a T die or circular die, injection molding, direct blow molding, and orientation blow molding. It is also possible to form the package by using sheets, tubes, and parison obtained in the above-described methods and by performing vacuum forming, pressure forming, plug assist forming, bulge forming, or blow forming to form the package. Moreover, it is possible to form the main portion first, and then to combine it with other molded articles, or to perform various kinds of lamination such as heat lamination, dry lamination, extrusion lamination, or hot melt lamination, or to perform laminated processing such as coating. Furthermore, shrink packaging, shrink label packaging, or outside or inside packaging by

**22. Claims 13-15, and 18-19 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Fox as modified, in further view of US 5,167,347 (Wiegner et. al.).

23. Claim 13, Fox teaches all the elements of claim 13, except for the contents of the container being reactive compounds, which react and display an effect when mixed. Wiegner teaches these missing elements. (Abstract of Weigner). The solvent and dye of the hair dye solution of Wiegner display an effect when mixed, as required in claim 13. A person of ordinary skill in the art would have found it obvious to try to combine a dye with a solvent to create hair dye in the Fox device, because Fox teaches its device can be used to hold hair spray. A person of ordinary skill in the art would be motivated to combine these two references, because if hair spray can be contained in a device, it

is reasonably predictable that hair dye would work as well.



[57] **ABSTRACT**

This invention relates to a multi-fluid mixing and automatic mettering dispenser for co-dispensing a pressurized permanent hair dye composition, having a first container containing a hair dye and propellant material, a second container disposed within the first container and containing a dye developer material, a nozzle structure defining a discharge passageway and a valve structure having first and second valves for controlling passage of the materials through the nozzle. The nozzle structure permits concurrent operation of the first and second valves to permit simultaneous flow of the materials form the first and second containers through the discharge passageway under the influence of the propellant, such that the materials exit from the dispenser at an overall flow rate not greater than about 1.8 gm/sec, and the flow ratio of the hair dye and propellant material exiting the first valve to the dye developer material exiting the second valve is in the range of about 1.9 to 2.5:1.

Claim 14, Fox teaches all the elements of claim 14, except that the contents of the containers when combined create a chemical reaction such as neutralization, hydration, redox-reaction, ion-exchange reaction, dissolution, or decomposition. Wiegner teaches these missing elements. (Abstract). The solvent and dye of the hair dye solution of Wiegner when mixed are an example of a dissolution, where the solvent dissolves the dye to create a mixture, as required in claim 14. A person of ordinary skill in the art would have found it obvious to try to combine a dye with a solvent to create hair dye by dissolution in the Fox device. A person of ordinary skill would have good reason to pursue the option of combining the two elements with the Fox device, because there would be a high degree of anticipated success, as the combination would be a result not of innovation, but of common sense.

Claim 15, Fox teaches all the elements of claim 15, except that the first agent in the container is a hair dye containing oxidation dye and the second agent in the

container is a hair dye containing oxidant. Wiegner teaches these missing elements. (Col. 2, lines 1-30). The first agent in Wiegner is a hair dye containing oxidation dye and the second agent is hydrogen peroxide which meets the requirements of claim 15. A person of ordinary skill in the art would have found it obvious to try to combine a dye with a solvent to create hair dye using the two agents in the Fox device because it would create an opportunity to mix the two agents safely efficiently and reliably. A person of ordinary skill would have good reason to pursue the option of combining the two agents using the Fox device, because there would be a high degree of anticipated success to create a reliably mixed hair dye mixture, as the combination would be a result not of innovation, but of common sense.

result there was at times a wasteful use of the several liquids intended to be mixed.

To the inventors' knowledge, there has been no commercialized or clearly disclosed apparatus or method for effectively co-dispensing a hair dye product. In the usual procedure of carrying out the dyeing or combined bleaching and dyeing operation, the oxidative dye base is manually mixed in a container with hydrogen peroxide and applied to the hair in a manner to ensure complete saturation of the hair, including the root portions. This method is time-consuming and subject to mixing errors leading to the development of insufficient color or hair damage through the use of excess peroxide. There is an additional possibility that, for one reason or another, the composition cannot be applied to the hair immediately after mixing but only after a period of time has elapsed. Oxidation dyes are aromatic compounds of the diamine, amino phenol or phenol type. These aromatic compounds are the dye precursors which are transformed into dye agents by condensation in the presence of a significant excess of an oxidizing agent, generally, $H_2O_2$. Since the oxidative dye precursors begin to oxidize immediately upon exposure to atmospheric oxygen or hydrogen peroxide, an undesirable color effect may result if a partially oxidized composition is used.

There have been various proposals in the past for the packaging of oxidative hair dyeing compositions in pressurized dispensing devices for the purpose of obviating some of the disadvantages enumerated above.

Claim 18, Fox teaches all the elements of claim 18, except for a process to produce the dispenser with the steps of placing the inner bag, charging the contents after fixing the valve, charging the propellant into the space between the outer container and the inner bag after inserting the inner bag into the container. Wiegner teaches these missing elements. (col. 5, lines 45-68). Wiegner teaches the process to manufacture the dispenser of claim 18, step by step. All the elements of claim 18 are in the prior art, though not in a single reference. A person of ordinary skill in the art would have found it obvious to apply the manufacturing process of Wiegner to Fox in order to create the Fox dispenser, and each element would serve the same function together that they originally served separately. A person of ordinary skill in the art would have recognized and predicted that the process of Wiegner would be a good way to manufacture the dispenser of Fox because the method is logical, organized, efficient and reliable.

ing further how of material construction.

In an assembly operation, as shown in FIG. 3, nozzle 4 is first seated against the preformed bend of the top cup 3. Gasket 15 is placed against base flange 14 of nozzle 4. The valve stem 17 is then positioned with the mixer portion 18 disposed through gasket 15 and within nozzle 4 such that valve flange 19 is sealingly compressed against gasket 15 and nozzle flange 14. Spring 22 and plug 23 are disposed as indicated relative to valve stem 17. The valve housing 8, sealingly mated to inner container 5 with hair dye developer material therein, is then seated against gasket 15 and flange 14 of the nozzle, and then the top cup 3 is formed in a crimping operation below the wall portion 10 to secure the valve assembly together. Valve plug 23 rests sealingly against conical valve seat 12. The second ingredient material (hair dye) is placed into the outer container 1, and the top cup 3 which carries the valve assembly and inner containers is then secured to the outer container 1 by spinning the edge of the top cup 3 over the top edge of the container 1 so that a sealed container capable of storing material to be dispensed and a suitable propellant under pressure is provided.

The dispensing device operates in the following manner. A solution of hair dye is in the outer container 1

Claim 19, Fox teaches all the elements of claim 19, except for a process to produce the dispenser with the steps of charging the outer container with propellant, charging one chamber, isolating the chamber and then charging the next chamber, and then the outer container, and then fixing the valve to the outer container. Wiegner teaches these missing elements. (col. 5, lines 45-68). Wiegner teaches the process to manufacture the dispenser of claim 19, step by step. All the elements of claim 19 are in the prior art, though not in a single reference. A person of ordinary skill in the art would have found it obvious to apply the manufacturing process of Wiegner to Fox in order to create the Fox dispenser, and each element would serve the same function together that they originally served separately. A person of ordinary skill in the art would have recognized and predicted that the process of Wiegner would be a good way to manufacture the dispenser of Fox because the method is logical, organized, efficient and reliable.

**24. Claim 16 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Fox as modified, in further view of US 5,820,956 (Hatakeyama et. al.) and US 5,034,014 (Wenke).

25. Fox teaches all the elements of claim 16, except for an inner bag with a synthetic resin with a laminated structure having a gas-absorbant layer, the first agent of the hair dye containing amines, with the upper chamber containing the first agent and the lower chamber containing the second agent. Hatakeyama teaches making an inner bag created by blow forming using a synthetic resin with a laminated structure having a gas-absorbant layer. (Fig. 4, col. 1, lines 5-10, 25-30, col. 2, lines 40-55, col. 5, lines 1-25,

col. 11, lines 25-40). Wenke teaches a hair dye containing amines (abstract). The choice to assign the first agent to the upper chamber and the second agent to the lower chamber of the container appears to be merely a "design choice" which is the prerogative of the artist, which creates no meaningful nor necessary functional or structural limitation. Fox teaches that the agents are in separate chambers, but does not assign a particular agent to a particular chamber, which is appropriate because nothing in the function of the device would be changed if the assignments were reversed.

Wenke:

[57] **ABSTRACT**

An aromatic amine, or a cosmetically acceptable salt thereof, is reacted with an aromatic aldehyde in a reaction medium containing water. 2,6-dihydroxypyridine, or a cosmetically acceptable salt thereof, is reacted with hydrogen peroxide in a reaction medium containing water. The two reaction mediums are combined so that both reactions are carried out together on hair. Preferably, the two reactions are carried out together in the same reaction medium. pH is adjusted so that the pH of the common reaction medium is about 5 to 7. Surprisingly, substantially no cross reaction occurs between the two reactions on hair.

**26. Claim 17 is rejected under 35 U.S.C. 103(a)** as being unpatentable over Fox as modified by Wiegner, and further in view of US 4,579,258 (Brown et. al.) or US 3,752,365 (Coleman).

27. Fox teaches all the elements of claim 17, except for a means to check the residual amount of the contents. Brown or Coleman teach this missing element. According to the Applicant specification, the required device is an aerosol can with an attached hook, which can be hung on a wire or a string in order to determine the amount of contents remaining. Coleman teaches a bracket or hook that is placed off-center that allows the mouthwash dispenser to be removably attached to the wall, which

has the capacity to be hung in a fashion to allow the device to dangle on a string or wire and determine the amount of contents remaining using the Applicant's method. (element 12-13, Figure 2, col. 1, lines 45-55, col. 2, lines 1-10). Brown teaches an aerosol can with an attachment that securely attaches to the can, and provides a hook on the top that can be used to dangle the combined attachment and aerosol can on a string or bar in a fashion that the amount of contents remaining could be determined using the Applicant's method. (element 24, Figure 1). A person of ordinary skill in the art would find it obvious to adapt Fox with either Brown or Coleman in order to create the device of claim 17, as Brown's device is also an aerosol can, and Coleman is also a hygiene product dispenser. A person of ordinary skill in the art would be motivated to combine the references because Brown and Coleman provide a structure which allows easy and simple storage of the device.

Brown:

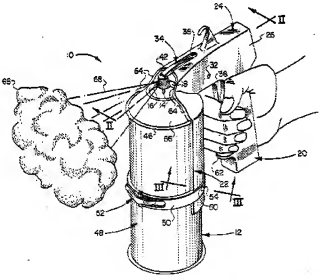
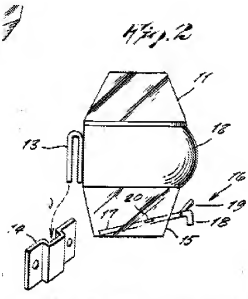



FIG. 1

**Coleman:**




bracket associated therewith.

FIG. 3 is a fragmentary side view of the spout tube in dispensing position.

FIG. 4 is a similar view thereof shown in a position with the value being closed.

Refering now to the drawing in detail, the reference numeral 10 represents a bathroom mouthwash dispenser wherein there is a clear plastic top cover 11 that is screwed down on a solid colored body 12 so to close a refilling top opening of the body. The rear side of the body 12 has an inverted hook 13 secured thereto thatis receivable downwardly over a U-shaped bracket 14 that is attachable to a bathroom or washroom wall by two screws.

The lower end of the body 12 is attached upon a clear plastic member 15 provided with a spout unit 16 that includes a tube 17 extending outwardly of a forward side of the member 15, the outer end of tube having a

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew P. Bainbridge whose telephone number is 571-270-3767. The examiner can normally be reached on Monday to Friday, 8:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Isabella can be reached on 571-272-4749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Bainbridge

/DMITRY SUHOL/
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